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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,284

04/19/2007

Anwar Abumustafa

688.1076

8086

23280 7590 07/06/2011
Davidson, Davidson & Kappel, LLC
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EXAMINER

BAYOU, AMENE SETEGNE

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

07/06/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,284	Applicant(s) ABUMUSTAFA, ANWAR	
	Examiner AMENE BAYOU	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal brief filed on 04/14/11, PROSECUTION IS HEREBY REOPENED. New ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Devon C Kramer/

Supervisory Patent Examiner, Art Unit 3746

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

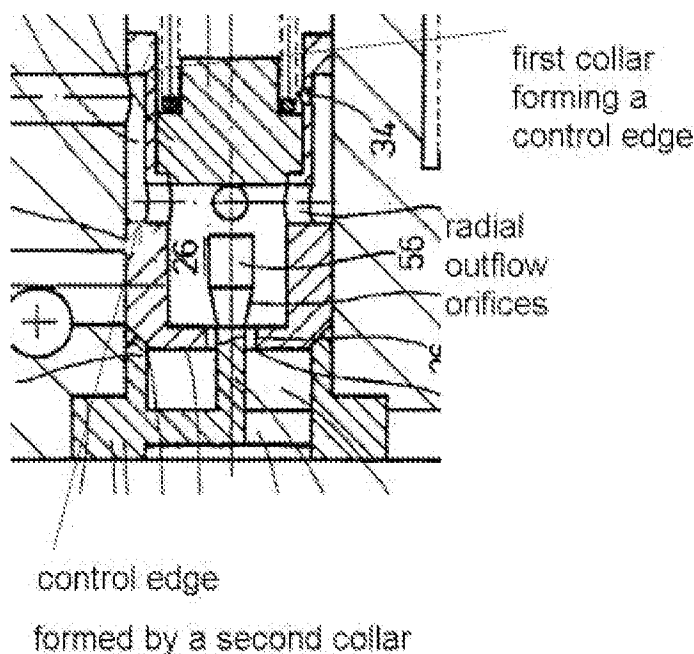
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 7-10 and 13 are rejected under 35 U.S.C 103(a) as being unpatentable over Nguyen et al.(5513672) in view of Nirasawa et al. (WO03/040599.Please note that a functionally equivalent US patent 7146998 is used) .

In re claim 7 Nguyen et al. disclose a valve assembly including:

A pump comprising: **a flow-control valve device (figure 1;column 1,lines 5-12)** including a piston **(16;figure 1)** displaceably accommodated within a piston bore , the piston bore having **at least one inflow channel (36)** and **at least one outflow channel (32)** , and the **piston (16)** having an **axial inflow orifice (26)** and a **plurality of radial, lateral outflow orifices (28)** and a **circumferential outflow groove (30)** disposed between **a first collar (see below)** and **a second collar (see below)**, the second collar forming a **control edge (see below)** for an outflowing fluid flow, the **axial inflow orifice (26)** extending cylindrically at least to a beginning of the **radial, lateral outflow orifices (28)** .



Nguyen et al.'s **outflow groove (30)** does not expand in terms of a radial depth on an outer surface of the piston.

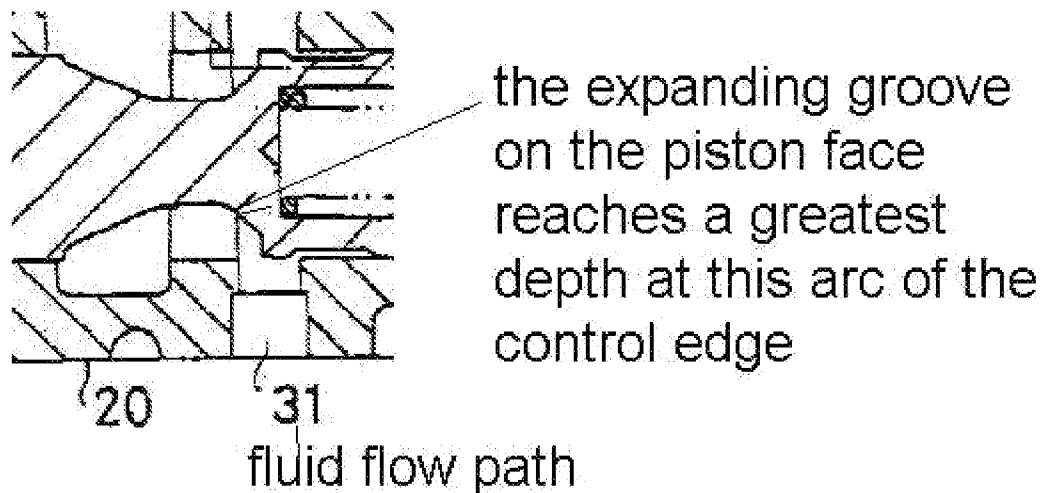
Nirasawa et al. teach a hydraulic valve wherein **a circumferential outflow groove (44; figure 2A and 2B)** expanding in terms of a radial depth on an outer circumference of the piston (40) towards the control edge.

It would have been obvious to one skilled in the art at the time the invention was made to modify the valve of Nguyen et al. by making the circumferential outflow groove to expand in terms of radial depth up to a control edge as taught by Nirasawa et al in order to have smooth flow transition between the discharge orifice and an outlet connection (the curved surface reduces flow resistance and accompanied flow loss is reduced).

In re claim 8 Nguyen et al. in view of Nirasawa et al. disclose the claimed invention:
Nirasawa et al. teach:

The **outflow groove (44; figure 2A and 2B)** expands in a conical form on a piston side and, as the result of a radially, inwardly directed arc, subsequently reaches a greatest depth in a region of the control edge .

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In re claim 9 once modified by Nirasawa et al. it is clear that the valve of Nguyen et al. will have radial outflow orifices whose diameter extend from the axial, cylindrical inflow orifice into the radially, inwardly directed arc in the control edge region, because the conical expanding groove of Nirasawa et al. shown above will be in direct contact with the radial outflow orifices in the control edge of the valve of Nirasawa et al. as shown in the annotated drawing above. Therefore it is evident that the radial outflow orifice's diameter extend from the inwardly directed arc in the control region.

In re claim 10, Nirasawa et al. in figure 1 disclose that the piston (16) at its end portion 24 forms a third collar (the collar is the tapered face that seats on the corresponding face 46).

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In re claim 13 Nirasawa et al. in column 1, line 8-10 disclose that the valve is used in a power steering pump.

4. Claim 11 is rejected under 35 U.S.C 103(a) as being unpatentable over Nguyen et al. (5513672) in view of Nirasawa et al. (WO03/040599. Please note that a functionally equivalent US patent 7146998 is used) further in view of Lambert et al. (5639066).

In re claim 11 Nirasawa et al. disclose the claimed invention except stating that the collars of the valve comprise pressure equalization grooves.

Lambert et al. teach a flow regulating valve wherein the collars have pressure equalization grooves (39; figure 1).

It would have been obvious to one skill in the art at the time the invention was made to have further modified the modified valve of Nirasawa et al. by adding pressure equalization grooves on the collar surfaces as taught by Lambert et al. in order to prevent piston binding as it moves inside the bore.

Response to Arguments

5. Applicant's arguments, see pages 3 and 4, filed 04/14/11, with respect to claims 7-13 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore the rejection is withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nguyen et al. and Nirasawa et al..

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amene S Bayou/

Examiner, Art Unit 3746